

REMARKS

Applicant has reviewed and considered the office action mailed on April 23, 2002 and the references cited therewith.

Claims 2 and 5 are amended, claims 1 and 4 are cancelled; as a result, claims 2-3 and 5-12 are now pending in the application. Claims 1 and 4 are cancelled without prejudice or disclaimer. Claims 2 and 5 are not being amended in response to an art rejection. They are merely being rewritten in independent form.

§102 Rejection of the Claims

Claims 1 and 5 were rejected under 35 U.S.C. § 102(e) as being anticipated by Naito, et al. (U.S. Patent 6,034,864). Applicant does not admit that Naito et al. is prior art and reserves the right to "swear behind" Naito et al. as provided for under 37 C.F.R. 1.131. Claim 1 is cancelled, so the rejection of claim 1 is moot. Applicant traverses the rejection of claim 5.

Claim 5 is rewritten in independent form to include claim 1. Claim 5 recites, "wherein the plurality of vias are plated through holes." Although the office action states on page 2 that the vias are plated through holes, the office action does not cite to specific language in Naito et al. that teaches "plated through holes." In addition, applicant has studied Naito et al. and is unable to find any references in Naito et al. to "plated through holes." Hence, applicant respectfully submits that Naito et al. does not teach "plated through holes." Thus, Naito et al. does not teach each of the elements of claim 5, so the office action fails to state a *prima facie* case of anticipation with respect to claim 5. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 5.

Claims 1, 5, and 9-10 were rejected under 35 U.S.C. § 102(e) as being anticipated by Farooq, et al.. (U.S. Patent 6,072,690). Applicant does not admit that Farooq et al. is prior art and reserves the right to "swear behind" Farooq et al. as provided for under 37 C.F.R. 1.131. Claim 1 is cancelled, so the rejection of claim 1 is moot. Applicant traverses the rejections of claims 5 and 9-10.

Claim 5 is rewritten in independent form to include claim 1. Claim 5 recites, "wherein the plurality of vias are plated through holes." Although the office action states on page 3 that

Serial Number: 09/473,315

Filing Date: December 28, 1999

Title: HIGH PERFORMANCE CAPACITOR

the vias are plated through holes, the office action does not cite to specific language in Farooq et al. that teaches "plated through holes." In addition, applicant has studied Farooq et al. and is unable to find any references in Farooq et al. to "plated through holes." Hence, applicant respectfully submits that Farooq et al. does not teach "plated through holes." Thus, Farooq et al. does not teach each of the elements of claim 5, so the office action fails to state a *prima facie* case of anticipation with respect to claim 5. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 5.

Claim 9 recites "a plurality of substantially rigid outer surfaces." Applicant respectfully submits that Farooq et al. does not teach "a plurality of substantially rigid outer surfaces." In the detailed description of FIG. 3A, at column 5, lines 6-32 of Farooq et al., the term rigid is not used. In fact, the detailed description in Farooq et al. does not include any discussion of the rigidity of the outer surfaces of FIG. 3A. Thus, Farooq et al. does not teach each of the elements of claim 9, so Farooq et al. does not anticipate claim 9. Applicant acknowledges that the office action shows FIG. 3A and 3B with the outer layers labeled as "rigid" surfaces. Applicant respectfully submits that the reference must teach a "rigid" surface and labeling a reference drawing in an office action is not sufficient to overcome the deficiencies in the reference in establishing a *prima facie* case of anticipation. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 9.

Claim 10 is dependent on claim 9. For reasons analogous to those stated above and elements in the claim, applicant respectfully submits that claim 10 is not anticipated by Farooq et al. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 10.

§103 Rejection of the Claims

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Herrell, et al. (U.S. Patent No. 6,191,479). Applicant does not admit that Herrell et al. is prior art and reserves the right to "swear behind" Herrell et al. as provided for under 37 C.F.R. 1.131. Claims 1 and 4 are cancelled, so the rejections of claims 1 and 4 are moot. Applicant traverses the rejections of claims 2-3 and 5.

With respect to claim 2, the office action states: "It would have been an obvious matter of design choice to form the capacitor of Herrell having a thickness of between .5 mm to 1mm, since such a modification would have involved a mere change in the size of a component." Applicant respectfully disagrees. Applicant submits that in the art of forming capacitors, forming capacitors that have a plurality of conductive layers coupled to a plurality of connection sites forming a capacitor that has a thickness of between .5 mm and 1 mm is not a matter of obvious design choice. The office action cites to *In re Rose*, 105 U.S.P.Q. 237 (CCPA 1955) and states that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* is directed to lumber packaging, while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Rose*, which is grounded in the facts of lumber packaging, is not applicable to the design of capacitors because lumber packaging and capacitor design are technologies in which scaling has different consequences.

Furthermore, applicant respectfully submits that citation to *In re Rose* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 2. Claim 2 is rewritten in independent form to include claim 1. Claim 2 recites, "wherein the capacitor has a thickness of between about .5 millimeter and about 1 millimeter." Herrell et al. does not teach or suggest "wherein the capacitor has a thickness of between about .5 millimeter and about 1 millimeter." So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 2.

With respect to claim 3, the Office action states: "It is well known in the capacitor art to form capacitors having a particular capacitance for an electrical system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the capacitor of Herrell et al. having a capacitance of 20 to 30 microfarads" Applicant respectfully disagrees. Applicant submits that in the art of forming capacitors, forming capacitors that have a plurality of conductive layers coupled to a plurality of connection sites forming a capacitor that has a thickness of between .5 mm and 1 mm and that has a capacitance

of 20 to 30 microfarads is not a matter of obvious design choice. The complex combination of capacitance value, thickness, and a plurality of conductive layers coupled to a plurality of connection sites differs significantly from the prior art. The office action cites to *In re Boesch*, 617 F.2d 272, 205 U.S.P.Q. 215 (CCPA 1980), and states that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* is directed to alloy design while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Boesch*, which is grounded in the facts related to alloy design, is not applicable to capacitor design because the process for designing alloys is different from the process for designing capacitors. For example, capacitor design does not involve a “result effective variable” which is central to *In re Boesch*.

Furthermore, applicant respectfully submits that citation to *In re Boesch* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 3. Claim 3 recites, "wherein the capacitor has a capacitance of between about 20 and about 30 microfarads." Herrell et al. does not teach or suggest "wherein the capacitor has a capacitance of between about 20 and about 30 microfarads." So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 3.

Claim 5 is rewritten in independent form to include claim 1. Claim 5 recites, "wherein the plurality of vias are plated through holes." Although the office action states on page 5 that the vias are plated through holes, the office action does not cite to specific language in Herrell et al. that teaches or suggests "plated through holes." In addition, applicant has studied Herrell et al. and is unable to find any references in Herrell et al. to "plated through holes." Hence, applicant respectfully submits that Herrell et al. does not teach or suggest "plated through holes." Thus, Herrell et al. does not teach each of the elements of claim 5, so the office action fails to state a *prima facie* case of obviousness with respect to claim 5. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 5.

Furthermore, since the office action does not cite another reference that teaches or suggests "plated through holes," applicant assumes that the rejection of claim 5 is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 3.

Claims 2-3, 6-8 and 11-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Farooq, et al. (U.S. Patent No. 6,072,690). Applicant does not admit that Farooq et al. is prior art and reserves the right two "swear behind" Farooq et al. as provided for under 37 C.F.R. 1.131. Applicant traverses the rejections of claims 2-3, 6-8 and 11-12.

With respect to claim 2, the office action states: "It would have been an obvious matter of design choice ... since such a modification would have involved a mere change in the size of a component." Applicant respectfully disagrees. Applicant submits that in the art of forming capacitors, forming capacitors that have a plurality of conductive layers coupled to a plurality of connection sites forming a capacitor that has a thickness of between .5 mm and 1 mm is not a matter of obvious design choice. The office action cites to *In re Rose*, 105 U.S.P.Q. 237 (CCPA 1955) and states that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* is directed to lumber packaging, while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Rose*, which is grounded in the facts of lumber packaging, is not applicable to the design of capacitors because lumber packaging and capacitor design are technologies in which scaling has different consequences.

Furthermore, applicant respectfully submits that citation to *In re Rose* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 2. Claim 2 is rewritten in independent form to include claim 1. Claim 2 recites, "wherein the capacitor has a thickness of between about .5 millimeter and about 1 millimeter." Farooq et al. does not teach or suggest "wherein the capacitor has a thickness of between about .5 millimeter and about 1 millimeter." So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an

affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 2.

With respect to claim 3, the office action states: "It is well known in the capacitor art to form capacitors having a particular capacitance for an electrical system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the capacitor of Farooq et al. having a capacitance of 20 to 30 microfarads . . ." Applicant respectfully disagrees. Applicant submits that in the art of forming capacitors, forming capacitors that have a plurality of conductive layers coupled to a plurality of connection sites forming a capacitor that has a thickness of between .5 mm and 1 mm and that has a capacitance of 20 to 30 microfarads is not a matter of obvious design choice. The complex combination of capacitance value, thickness, and a plurality of conductive layers coupled to a plurality of connection sites differs significantly from the prior art. The office action cites to *In re Boesch*, 617 F.2d 272, 205 U.S.P.Q. 215 (CCPA 1980), and states that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* is directed to alloy design while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Boesch*, which is grounded in the facts related to alloy design, is not applicable to capacitor design because the process for designing alloys is different from the process for designing capacitors. For example, capacitor design does not involve a "result effective variable" which is central to *In re Boesch*.

Furthermore, applicant respectfully submits that citation to *In re Boesch* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 3. Claim 3 recites, "wherein the capacitor has a capacitance of between about 20 and about 30 microfarads." Farooq et al. does not teach or suggest "wherein the capacitor has a capacitance of between about 20 and about 30 microfarads." So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 3.

Claim 6 recites "a pair of dielectric sheets, each of the pair of dielectric sheets having a thickness slightly greater than about 7 microns, for providing a pair of substantially rigid outer surfaces for the plurality of second conductive layers interlaced with the plurality of first conductive layers." Applicant respectfully submits that Farooq et al. does not teach or suggest this element. With respect to the thickness of the dielectric sheets, Farooq et al. at column 6, line 25, states: "Referring to FIG. 4a a green ceramic sheet 80 (thickness to be determined by final product requirements), has placed therein one or more holes 82 (also known as vias) in it." Hence, Farooq et al. does not teach or suggest "substantially rigid outer surfaces." Thus, since Farooq et al. does not teach or suggest each of the elements of claim 6, the office action does not state a *prima facie* case of obviousness with respect to claim 6. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 6.

With respect to claim 6, the office action states: "It would have been an obvious matter of design choice to form the pair of dielectric sheets having a thickness of slightly greater than 7 microns, since such a modification would have involved a mere change in the size of a component." Applicant respectfully disagrees. The office action cites to *In re Rose*, 105 U.S.P.Q. 237 (CCPA 1955) and states that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* is directed to lumber packaging, while the present invention is directed to capacitor design. Applicant respectfully submits that the rule of *In re Rose*, which is grounded in the facts of lumber packaging, is not applicable to the design of capacitors because lumber packaging and capacitor design are technologies in which scaling has different consequences.

Furthermore, applicant respectfully submits that citation to *In re Rose* is insufficient to satisfy the burden of stating a *prima facie* case of obviousness with respect to claim 6. Claim 6 recites, "each of the pair of dielectric sheets having a thickness slightly greater than about 7 microns." Farooq et al. does not teach or suggest "each of the pair of dielectric sheets having a thickness slightly greater than about 7 microns." So, since the office action does not cite another reference that teaches or suggests this element, applicant assumes that the rejection is based on facts within the personal knowledge of the Examiner. Therefore, applicant respectfully requests that the Examiner provide an affidavit as required by MPEP § 2144.03. If the Examiner cannot

provide an affidavit, applicant requests withdrawal of the rejection and reconsideration and allowance of claims 6.

Claim 7 is dependent on claim 6, so claim 7 includes all of the elements of claim 6. Applicant respectfully submits, as argued above, that Farooq et al. does not teach or suggest each of the elements of claim 6. Therefore, Farooq et al. does not teach or suggest each of the elements of claim 7, and the office action does not state a *prima facie* case of obviousness with respect to claim 7. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 7.

Claim 8 is dependent on claim 6, so claim 8 includes all of the elements of claim 6. Applicant respectfully submits, as argued above, that Farooq et al. does not teach or suggest each of the elements of claim 6. Therefore, Farooq et al. does not teach or suggest each of the elements of claim 8, and the office action does not state a *prima facie* case of obviousness with respect to claim 8. Therefore, applicant requests withdrawal of the rejection and reconsideration and allowance of claim 8.

Claims 11 and 12 are dependent on claim 9, so claims 11 and 12 include all of the elements of claim 9. Claim 9 recites, "a plurality of substantially rigid outer surfaces." Applicant respectfully submits, as argued above, that Farooq et al. does not teach "a plurality of substantially rigid outer surfaces." In addition, applicant respectfully submits Farooq et al. does not suggest "a plurality of substantially rigid outer surfaces" because Farooq et al. does not address the rigidity of the surfaces of a capacitor. Therefore, since Farooq et al. does not teach or suggest each of the elements of claims 11 and 12, the office action does not state a *prima facie* case of obviousness with respect to claims 11 and 12. Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 11 and 12.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone applicant's attorney at 612-371-2109 to facilitate prosecution of the application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 23 day of July, 2002.

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Signature